# MAGI-2 (D-15): sc-11528



The Power to Question

### **BACKGROUND**

The membrane-associated guanylate kinase (MAGUK) proteins are concentrated at the membrane-cytoskeletal interface where they facilitate the assembly of multiprotein complexes on the inner surface of the plasma membrane. Three protein-protein interaction modules characteristically define MAGUK related proteins: the PDZ domain, the SH3 domain and the guanylate kinase (GuK) domain. The closely related MAGUK proteins, MAGI-1, MAGI-2 and MAGI-3 (membrane associated guanylate kinase inverted-1 and 2), likewise contain the GuK domain and five PDZ domains; however, the SH3 domain is replaced with a WW domain. The transcripts of MAGI-1 are alternatively spliced to produce three distinct proteins having unique carboxy-terminals. Two variants, MAGI-1a and MAGI-1b, are associated with the membrane and cytosolic fractions and are primarily expressed in the brain. The third isoform, MAGI-1c, encodes for a nuclear localization signal that localizes MAGI-1c to the nucleus, and it is primarily expressed in the liver and kidney. MAGI-2 and MAGI-3 are localized to the plasma membrane, and they contribute to protein scaffolding by associating with the protein phosphatase PTEN.

## **REFERENCES**

- Anderson, J.M. 1996. Cell signalling: MAGUK magic. Curr. Biol. 6: 382-384.
- Dobrosotskaya, I., Guy, R.K. and James, G.L. 1997. MAGI-1, a membraneassociated guanylate kinase with a unique arrangement of protein-protein interaction domains. J. Biol. Chem. 272: 31589-31597.
- Wood, J.D., Yuan, J., Margolis, R.L., Colomer, V., Duan, K., Kushi, J., Kaminsky, Z., Kleiderlein, J.J., Sharp, A.H. and Ross, C.A. 1998. Atrophin-1, the DRPLA gene product, interacts with two families of WW domaincontaining proteins. Mol. Cell. Neurosci. 11: 149-160.
- Dimitratos, S.D., Woods, D.F., Stathakis, D.G. and Bryant, P.J. 1999.
  Signaling pathways are focused at specialized regions of the plasma membrane by scaffolding proteins of the MAGUK family. Bioessays 21: 912-921.
- Dobrosotskaya, I.Y. and James, G.L. 2000. MAGI-1 interacts with betacatenin and is associated with cell-cell adhesion structures. Biochem. Biophys. Res. Commun. 270: 903-909.
- Wu, Y., Dowbenko, D., Spencer, S., Laura, R., Lee, J., Gu, Q. and Lasky, L.A. 2000. Interaction of the tumor suppresser PTEN/MMAC with a PDZ domain of MAGI 3, a novel membrane-associated guanylate kinase. J. Biol. Chem. 275: 21477-21485
- Wu, X., Hepner, K., Castelino-Prabhu, S., Do, D., Kaye, M.B., Yuan, X.J., Wood, J., Ross, C., Sawyers, C.L. and Whang, Y.E. 2000. Evidence for regulation of the PTEN tumor suppressor by a membrane-localized multi-PDZ domain containing scaffold protein MAGI-2. Proc. Natl. Acad. Sci. USA 97: 4233-4238.

## **CHROMOSOMAL LOCATION**

Genetic locus: MAGI2 (human) mapping to 7g21.11.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### **SOURCE**

MAGI-2 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MAGI-2 of human origin.

### **PRODUCT**

Each vial contains 200  $\mu g$  IgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11528 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### **APPLICATIONS**

MAGI-2 (D-15) is recommended for detection of MAGI-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAGI-2 siRNA (h): sc-42002, MAGI-2 shRNA Plasmid (h): sc-42002-SH and MAGI-2 shRNA (h) Lentiviral Particles: sc-42002-V.

### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **PROTOCOLS**

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **MAGI-2 (6F5):** sc-517008, our highly recommended monoclonal alternative to MAGI-2 (D-15).

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